



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/382,702	08/24/1999	PETER ANTHONY HOCHSTEIN	9100.2881REI	5578
25099	7590	07/16/2007		
DAVID M QUINLAN, PC 32 NASSAU STREET SUITE 300 PRINCETON, NJ 08542			EXAMINER VU, BAO Q	
			ART UNIT 2838	PAPER NUMBER
			MAIL DATE 07/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/382,702

Applicant(s)

HOCHSTEIN, PETER ANTHONY

Examiner

Bao Q. Vu

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-24, 28, 32, 37, 38, 41, 42, 44 and 46-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 7-23 is/are allowed.
- 6) ☒ Claim(s) 24, 28, 32, 37, 38, 41, 42, 44 and 46-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/13/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 28, 32 (independent) and the multiple dependent claims 37, 38, 41, 42, 46-50 and multiple dependent claim 37, 38 and 49 that depend from claim 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (USP 5,463,280) in view of Power Supply Cookbook and the Motorola data sheet for the MC 34261 controller in view of Applicant Prior Art (APA) and further in view of and in view of Hildebrand (USP 5,075,601).

Johnson discloses the claimed invention (see figure 8) an AC input (102), a rectifier (108), a switching power supply (106) for use with an LED diode array (110), except for the use of electromagnetic interference filter and having a switch mode power supply coupled to the output of the rectifier for maintaining current and voltage waveforms in phase with respect to variation in the input line (power factor correction circuitry), the LED array with multiple current paths and for their use in traffic, pedestrian or rail crossing signal housing and the switch mode power supply with power factor correction circuitry being an integrated circuit.

Applicant's Prior Art (APA) discloses that it is known in the art to make use of series-parallel LED array in a switching power supply having multiple current paths and for their use in traffic, pedestrian or rail crossing signal housing. See figure 1.

The Power Supply Cookbook and the Motorola data sheet for the MC 34261 controller discloses that it is known in the art to use an electromagnetic interference filter for use with a switching power supply the use of electromagnetic interference filter and having a switch mode power supply coupled to the output of the rectifier for maintaining current and voltage waveforms in phase with respect to variation in the input line (power factor correction circuitry). The Power Supply Cookbook also teaches the use of switch mode power supply with power factor correction circuitry being an integrated circuit.

Johnson in view of Power Supply Cookbook and Motorola data sheet and in view of Applicant's Prior Art (APA) discloses the claimed invention (see above paragraphs) except for the use of a conflict monitor circuit used to help control leakage currents by providing high impedance if such conditions exists.

Hildebrand discloses that it is known in the art to provide the use of conflict monitor circuit used to help control leakage currents by providing high impedance if such conditions exists. The Hildebrand circuit (see figure 1A) uses a Zener diode (CR5) in combination with transistor (Q2) and that those components correspond to the Zener diode (D5) and the transistor (Q1) of the claimed clamp circuit's "voltage sensing means". Hildebrand circuit uses a transistor (Q3) in combination with resistor (R7) and that those components correspond to the transistor (Q2) and the resistor (R5) of the

Art Unit: 2838

claimed conflict monitor circuit's "control load means". Then finally, the circuit when the traffic light is off, thereby preventing leakage current, and that it completely removes this resistor (R7) from the circuit when the light is on. This operation corresponds to that of the claimed conflict monitor circuit, which places the resistor (R5) of its "control load means" in the circuit when the light is off and then completely removes that resistor (R5) from the circuit when the light is on.

The court decisions **63 F. Supp. 2d 788; 1999 U.S. Dist. LEXIS 13116** from page 29, column 2, second paragraph states *"This undisputed evidence suffices to show that the Hildebrand device is nearly identical in structure and function to the adaptive clamp circuit of claims 5 and 6. First of all, it shows that the Hildebrand device "clamps" within the meaning of the '645 patent, n34 That is, when voltage falls below a certain amount -- the Zener voltage of Hildebrand's Zener diode (CR5) -- that diode does not conduct and the leakage current is directed through resistor (R7). Hildebrand, 6:23. Likewise, when the '645's voltage falls below a certain amount -- the zener voltage of its Zener diode (D5) -- that diode does not conduct and [**111] leakage current is directed through resistor (R5). '645, 7:59-62. Second, the undisputed evidence also shows that the Hildebrand device is "adaptive" within the meaning of the '645 patent. When the Hildebrand light is on, its dynamic load circuit removes the resistor (R7), and when its light is off, it places the resistor (R7) in the circuit to clamp leakage. Hildebrand, 6:42-50; (Third Erickson Decl. at PP 33-34)."*

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the device of Johnson in view of Power Supply

Cookbook and Motorola data sheet and provide an conflict monitor circuit as taught by Hildebrand, in order to lessen the effects of current leakage inherent to LED circuitry and have a more dynamic response to this recurring problem.

3. Claims 24 and multiple dependent claims 41, 42, 46-48, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (USP 5,463,280) in view of Applicant Prior Art (APA) and further in view of Hildebrand (USP 5,075,601).

Johnson discloses the claimed invention (see figure 8) an AC input (102), a rectifier (108), a switching power supply (106) for use with an LED diode array (110), except for the use of electromagnetic interference filter and having a switch mode power supply coupled to the output of the rectifier for maintaining current and voltage waveforms in phase with respect to variation in the input line (power factor correction circuitry), the LED array with multiple current paths and for their use in traffic, pedestrian or rail crossing signal housing and the switch mode power supply with power factor correction circuitry being an integrated circuit.

Applicant's Prior Art (APA) discloses that it is known in the art to make use of series-parallel LED array in a switching power supply having multiple current paths and for their use in traffic, pedestrian or rail crossing signal housing. See figure 1.

Johnson in view of Applicant's Prior Art (APA) discloses the claimed invention (see above paragraphs) except for the use of a conflict monitor circuit used to help control leakage currents by providing high impedance if such conditions exists.

Hildebrand discloses that it is known in the art to provide the use of conflict monitor circuit used to help control leakage currents by providing high impedance if

Art Unit: 2838

such conditions exists. The Hildebrand circuit (see figure 1A) uses a Zener diode (CR5) in combination with transistor (Q2) and that those components correspond to the Zener diode (D5) and the transistor (Q1) of the claimed clamp circuit's "voltage sensing means". Hildebrand circuit uses a transistor (Q3) in combination with resistor (R7) and that those components correspond to the transistor (Q2) and the resistor (R5) of the claimed conflict monitor circuit's "control load means". Then finally, the circuit when the traffic light is off, thereby preventing leakage current, and that it completely removes this resistor (R7) from the circuit when the light is on. This operation corresponds to that of the claimed conflict monitor circuit, which places the resistor (R5) of its "control load means" in the circuit when the light is off and then completely removes that resistor (R5) from the circuit when the light is on.

The court decisions **63 F. Supp. 2d 788; 1999 U.S. Dist. LEXIS 13116** from page 29, column 2, second paragraph states *"This undisputed evidence suffices to show that the Hildebrand device is nearly identical in structure and function to the adaptive clamp circuit of claims 5 and 6. First of all, it shows that the Hildebrand device "clamps" within the meaning of the '645 patent, n34 That is, when voltage falls below a certain amount -- the Zener voltage of Hildebrand's Zener diode (CR5) -- that diode does not conduct and the leakage current is directed through resistor (R7). Hildebrand, 6:23. Likewise, when the '645's voltage falls below a certain amount -- the zener voltage of its Zener diode (D5) -- that diode does not conduct and [**111] leakage current is directed through resistor (R5). '645, 7:59-62. Second, the undisputed evidence also shows that the Hildebrand device is "adaptive" within the meaning of the '645 patent.*

When the Hildebrand light is on, its dynamic load circuit removes the resistor (R7), and when its light is off, it places the resistor (R7) in the circuit to clamp leakage. Hildebrand, 6:42-50; (Third Erickson Decl. at PP 33-34)."

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the device of Johnson in view of Power Supply Cookbook and Motorola data sheet and provide an conflict monitor circuit as taught by Hildebrand, in order to lessen the effects of current leakage inherent to LED circuitry and have a more dynamic response to this recurring problem.

4. Claims 44, 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (USP 5,463,280) in view of Hildebrand (USP 5,075,601).

Johnson discloses the claimed invention (see figure 8) an AC input (102), a rectifier (108), a switching power supply (106) for use with an LED diode array (110), except for the use of electromagnetic interference filter and having a switch mode power supply coupled to the output of the rectifier for maintaining current and voltage waveforms in phase with respect to variation in the input line (power factor correction circuitry), the LED array with multiple current paths and for their use in traffic, pedestrian or rail crossing signal housing and the switch mode power supply with power factor correction circuitry being an integrated circuit.

Johnson discloses the claimed invention (see above paragraphs) except for the use of a conflict monitor circuit used to help control leakage currents by providing high impedance if such conditions exists.

Hildebrand discloses that it is known in the art to provide the use of conflict monitor circuit used to help control leakage currents by providing high impedance if such conditions exists. The Hildebrand circuit (see figure 1A) uses a Zener diode (CR5) in combination with transistor (Q2) and that those components correspond to the Zener diode (D5) and the transistor (Q1) of the claimed clamp circuit's "voltage sensing means". Hildebrand circuit uses a transistor (Q3) in combination with resistor (R7) and that those components correspond to the transistor (Q2) and the resistor (R5) of the claimed conflict monitor circuit's "control load means". Then finally, the circuit when the traffic light is off, thereby preventing leakage current, and that it completely removes this resistor (R7) from the circuit when the light is on. This operation corresponds to that of the claimed conflict monitor circuit, which places the resistor (R5) of its "control load means" in the circuit when the light is off and then completely removes that resistor (R5) from the circuit when the light is on.

The court decisions **63 F. Supp. 2d 788; 1999 U.S. Dist. LEXIS 13116** from page 29, column 2, second paragraph states "*This undisputed evidence suffices to show that the Hildebrand device is nearly identical in structure and function to the adaptive clamp circuit of claims 5 and 6. First of all, it shows that the Hildebrand device "clamps" within the meaning of the '645 patent, n34 That is, when voltage falls below a certain amount -- the Zener voltage of Hildebrand's Zener diode (CR5) -- that diode does not conduct and the leakage current is directed through resistor (R7). Hildebrand, 6:23. Likewise, when the '645's voltage falls below a certain amount -- the zener voltage of its Zener diode (D5) -- that diode does not conduct and [**111] leakage current is*

directed through resistor (R5). '645, 7:59-62. Second, the undisputed evidence also shows that the Hildebrand device is "adaptive" within the meaning of the '645 patent. When the Hildebrand light is on, its dynamic load circuit removes the resistor (R7), and when its light is off, it places the resistor (R7) in the circuit to clamp leakage. Hildebrand, 6:42-50; (Third Erickson Decl. at PP 33-34)."

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the device of Johnson in view of Power Supply Cookbook and Motorola data sheet and provide an conflict monitor circuit as taught by Hildebrand, in order to lessen the effects of current leakage inherent to LED circuitry and have a more dynamic response to this recurring problem.

Response to Arguments

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Q. Vu whose telephone number is (571) 272-2088. The examiner can normally be reached on Monday-Thursdays, 8:00AM- 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2838

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Bao Q. Vu
Primary Examiner
Art Unit 2838

July 9, 2007